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AGRICULTURAL MARKETING



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AGRICULTURAL MARKETING

Volume 10, Number 8

Contents

August 1965

Our Expanding Food Donations	3
Rice — From Field to Table	4
Dump Pits and Legs for Country Elevators	6
Hydrocooling Peaches	7
What Do They Eat At School?	8
New Glamour for Frozen Eggs	10
Consumer & Marketing Briefs	12
Better Control of Sweetpotato Decay	14
Poultry Inspection Protects You	16

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Cover Page

Flood, tornado, earthquake or hurricane, — whatever the natural disaster, food made available by USDA's Consumer and Marketing Service is at hand to feed the victims. Our cover subjects are tornado victims eating their Palm Sunday dinner in a firehouse at Dunlap, Indiana. About a thousand people were fed USDA-donated food there the first day.

ORVILLE L. FREEMAN
Secretary of Agriculture

S. R. SMITH, Administrator
Consumer and Marketing Service

Editor, James A. Horton



AGRICULTURAL MARKETING IS PUBLISHED MONTHLY BY THE CONSUMER AND MARKETING SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE, WASHINGTON, D. C. 20250. THE PRINTING OF THIS PUBLICATION HAS BEEN APPROVED BY THE BUREAU OF THE BUDGET, JULY 20, 1964. YEARLY SUBSCRIPTION RATE IS \$1.50 DOMESTIC; \$2.25 FOREIGN. SINGLE COPIES ARE 15 CENTS EACH. SUBSCRIPTION ORDERS SHOULD BE SENT TO THE SUPERINTENDENT OF DOCUMENTS, GOVERNMENT PRINTING OFFICE, WASHINGTON, D. C. 20402.

Our Expanding Food Donations

More people than ever before are benefiting this year from one or another of USDA's food donation programs, on either an emergency or regular basis.

MORE counties and cities than ever before are giving needy families foods donated by the U.S. Department of Agriculture, this year.

Latest reports from the States (May 1965) show that 54 percent of all counties — 1,665 out of 3,072 — had family food donation programs, along with 260 cities.

USDA's Consumer and Marketing Service, which administers the program nationally, figures that these areas were donating food to nearly 5½ million people. This is below the peak reached in 1962 when more people in fewer areas were getting donated foods. In addition, donated foods were also going to 1.4 million people in charitable institutions, some 19 million children ate school lunches including donated foods in the school year just ended, and by May about 2½ million pounds of food had been given to 125,000 disaster victims during 1965.

Added together, more people than ever before are benefiting this year from one or another of the food donation programs.

(In addition, of course, cash grants for school lunch and special milk programs are helping improve children's diets, and the Food Stamp Program has replaced food donation to needy families in several counties and cities.)

This is obvious progress toward two national goals — reducing the price-depressing abundance of extra food (some of it stored for long periods at public expense) — and getting more and better food into stomachs of hungry or under-nourished people. However, C&MS officials point out that this abundant food is still not available to many people who need it most — partly because some local governments have not provided for local administration.

Nationally, USDA's Consumer and Marketing Service directs and coordi-

nates the commodity distribution program and approves standards the States set for participation.

USDA acquires the food through its price-support and surplus-removal programs. The food, suitably processed and packaged, is then shipped in car-load lots to participating States and U.S. territories. The States must then take over the management and distribution of the food to local communities. The communities make final distribution to eligible recipients. Benefited are needy adults and children in family units and charitable institutions, children in schools and nonprofit summer camps, victims of earthquakes, floods, tornadoes, and similar natural disasters.

All of the foregoing is a well-worked out procedure that functions almost automatically. The only flaw is the fact that many counties and communities do not participate — some because they lack the funds to set up and staff distribution centers. Very often, residents of such communities are the very ones who need this type of help the most.

Increased participation is coming about in a number of ways. In fact, during the first five months this year, 65 counties and 6 cities and towns either started or resumed food donations to needy families.

Twenty-six of these counties are in Illinois, where the State is making funds available to extend the program to all counties except Cook and Franklin, which are taking part in the Federal Food Stamp Program.

The State of Indiana has authorized all townships to start family donation programs by January 1966.

Carter County, Missouri, illustrates another solution. This county recently resumed donation of USDA food to 250 needy families as part of a Community Action Program. Funds granted by the Office of Economic Opportunity

are used to pay local costs of certifying families and handling and distributing the food. This is the first time that family feeding has been a part of a Community Action Program.

C&MS officials believe that Illinois and Indiana and Carter County, Missouri, have set precedents pointing the way for many other counties and cities to take part in the family food donation program — through State financing, or by making food donations to needy families a part of their applications for Community Action Programs.

Others may develop ways of their own to bring USDA-donated foods to their needy people. USDA has the food. C&MS has the experience and organizations to work with any State, county, or local government to help set up food assistance programs suited to local needs. The motive in all cases is to benefit needy people who want and need additional food.

About 15 different kinds of food are currently being distributed under this program. Each eligible person gets approximately \$7 worth per month (estimated retail value) at recommended distribution rates. Included are canned meat, butter, cheese, lard, dry milk, peanut butter, flour, rice, beans, and a variety of cereal products. The donations enable low-income families to use their food money to buy additional kinds of food to give variety and substance to their diets.

C&MS commodity divisions and the Commodity Distribution Division are constantly alert to find better ways to process and package donated food to widen the kinds and varieties made available for distribution. A conspicuous result is the canning of beef in natural juices — a completely nutritious and tasty product that has won wide acceptance wherever offered (see *Agricultural Marketing*, May 1965.)

RICE

from field to table

How one of the world's most versatile foods is grown, harvested, dried, stored, milled, marketed and consumed — and the C&MS services provided along the way.

RICE — the principal food in many parts of the world — is also one of the most versatile of all the world's foods. American gourmets in experimenting with rice, have concocted tasty dishes for every course of a meal — from appetizer, to main course, to dessert. The modern housewife with an up-to-date cookbook can solve most of her menu problems by simply reaching for the rice.

Though rice production is primarily attributed to the Asian countries, the United States has been producing it since the early 1600's. History books regard the Virginia Colony as the American pioneer of rice production dating back to 1647, with North Carolina, South Carolina, Georgia and Florida following. After the Civil War the major producing areas shifted to

Texas, Louisiana, Mississippi, Arkansas and California.

In the Asian countries rice is planted on flooded land. To get this "rice paddy" effect in America, our growers cover their fields with irrigated water, increasing it gradually to about five inches by the time the rice plants are six to seven inches high. Then, when the rice is headed, the water is drained off and the land is allowed to dry so that machinery can get in to harvest the crop.

The American housewife would hardly recognize the rice as it comes from the field. It's not smooth like the rice on her shelf — it's not shiny, nor even white. Before it is table-ready, it must be dried, hulled and milled.

Harvested rice usually contains anywhere from 18 to 25 percent moisture.

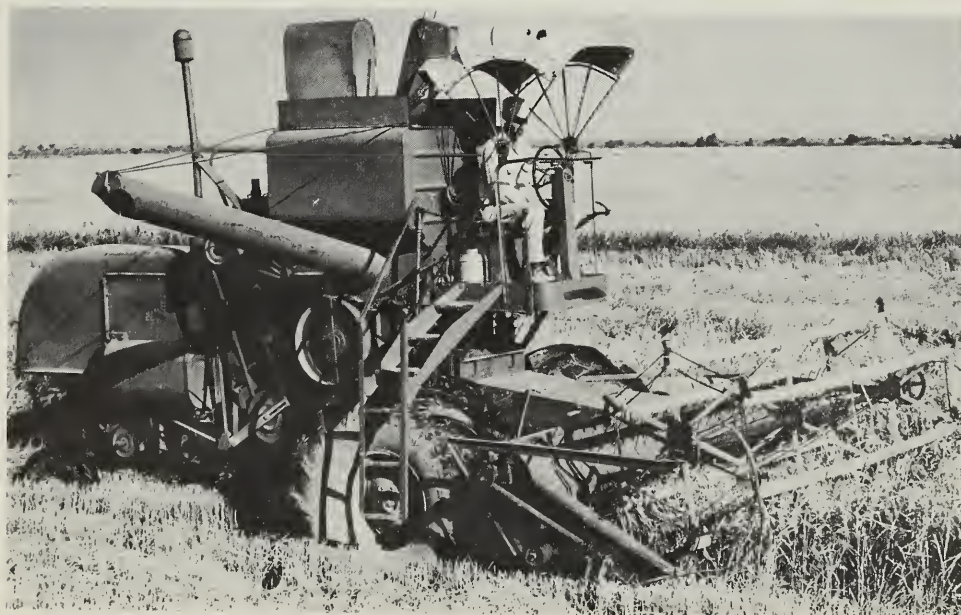
It cannot be stored safely in this condition because the moisture would cause heat which could damage the kernels. So the first step is to dry the rice to about a 14 percent moisture content. In the Far East, most of the rice is cut and tied in bundles and left in the fields for the sun to dry. The most common method of drying rice in the U.S. is the continuous-flow heated-air dryer. In this operation, the rice falls through a tall vertical column while heated air is forced up through it. Several passes with intervening "tempering" are usually necessary to get the rice to the desired dryness.

At this point, with his rice dry and ready for storage, the grower can either sell or wait for a better price. Unlike the producer of wheat or corn, the rice grower has no futures exchanges — he is not able to reduce his marketing risks by hedging. Although some rice is sold directly to the mills, most of it is sold through farmers' cooperative marketing associations or auctioned off at the commercial dryers. The farmer's problem at this point is when to sell, when to store, and where to go for the best price. How does he settle his problem? One good aid is the market news reports furnished by the Federal-State Market News Service.

The information for these bulletins is gathered daily during the harvesting season by market reporters who contact the growers, rough rice buyers and millers to determine the market situation. They also attend rice sales to find out the volume of sales at the various price levels, as well as the quality of the rice, and various other supply and demand information. This data is then sent to the growers and buyers through daily radio, television and newspaper reports. In addition, weekly, monthly and annual rice reports are also issued. There are six Rice Market News Offices located in the major rice producing areas to make sure the farmer has as much information as possible to help him make his marketing decisions.

As a further aid to growers and members of the rice industry, the U.S. Department of Agriculture established standards of quality for rough, brown and milled rice. The grades, given in numerical terms — U.S. No. 1, No. 2, etc. — indicate the quality characteristics of the rice such as the degree of milling, percentage of broken kernels and appearance factors. These standards provide a common language between buyers and sellers to facilitate their transactions.

Before he sells, therefore, the farmer



will probably have his rice analyzed by an official rice inspector in his area. The Consumer and Marketing Service operates more than 16 inspection offices in the rice growing regions — some sponsored jointly with the States. A licensed inspector puts a sample of the rice through all the milling procedures to determine its quality and milling yield. On the basis of this analysis, the inspector issues a certificate showing the class and grade of the rice, the percentage of head rice (whole kernels with not more than 4 percent of broken kernels), the percentage of total milled rice and the percentage of moisture.

With the quality certificate, the farmer can either bargain for a sale or store his crop until the market is more favorable. At any rate, sooner or later most of the rough rice is sold to a miller.

The first step in milling is to clean the rice to remove the chaff, weed seeds, mud lumps and other materials. Next, much of the rice is "parboiled" — that is, the rough rice is steeped in hot water, drained and steamed (usually under pressure) to force the soluble vitamins and mineral elements from the outer layer of bran into the kernels.

Then the rice is passed through the "sheller" machines where the hulls are removed leaving the so-called "brown rice" which is then sent to the huller where the brown layer of bran is rubbed off. Usually, this rice is sent through the huller again to make sure all the bran is removed leaving the rice gleaming white. At this point it begins to look like the rice on the grocery shelves.

From here the rice is divided into three groups — whole kernels, large pieces of broken kernels, and small broken pieces. When the mill receives an order, rice from these groups is blended according to the buyer's specifications.

Milled rice is marketed in much the same way as flour, corn grits, or any of the breakfast cereals. In most cases the miller sells the rice in carlots to jobbers, large wholesalers, or chain-store operators who in turn sell it to the retail grocers. Some of the larger millers, however, have sales agencies and storage facilities in the principal markets and sell directly to the retail outlets.

Last year U.S. production amounted to more than 3.6 million tons of rough rice which produced about 2.5 million tons of milled rice. Still, to a good many Americans, the word "rice" is automatically associated with China,



Inspector analyzes each kernel for defects which would downgrade the rice.

Japan, Burma or other foreign countries. Almost two thirds of our rice crop goes abroad. In fact, the U.S. has replaced Red China as the world's third leading exporter of rice, behind Burma and Thailand.

Three kinds of rice are grown in the U.S. — each kind preferred by different groups of people. The short grain rice, which is grown primarily in California, is preferred by the Japanese, the Puerto Ricans and by those who use rice primarily for desserts.

The long grain rice, grown almost exclusively in the Southern States, is preferred by most Americans and by most of the Middle, Eastern and Far Eastern countries because of its cooking characteristics. Unlike the short grain rice which tends to clump when it is cooked, the long grains remain separate and firm.

Medium grain rice, also primarily grown in the Southern States, is increasing in popularity. It provides greater field and milling yields than the long varieties while retaining the cooking characteristics of the long grain varieties.

Several by-products are also obtained from the milling process. Oil extracted from the bran can be refined and developed into a high quality salad oil, and the bran is also used in feed mixes. The hulls are used for fuel, fertilizer, as a filler in stock feeds, in the manufacture of soap, as litter for chickenhouses, in building blocks and as a packing material.

Rice is indeed one of the world's most versatile foods and, as you can see, its versatility extends beyond the kernel itself. There is very little of the rice crop that is not marketable.



Market reporter (right) interviews a wholesaler — an important news source.

Dump Pits and Legs for Country Grain Elevators

By H. D. Bouland

USDA engineers find that adequate yet economical systems help save time and money.

HAVE you ever tried figuring out what size dump pit and bucket elevator would work best at your country grain elevator?

Marketing research engineers in the U.S. Department of Agriculture's Agricultural Research Service have been working on the problem and they have found some answers.

The problem is to receive truckloads of grain as fast as possible without having the pit overflow — and to do this at low cost.

The engineers calculated that country elevators would usually operate most economically with a pit capacity, in bushels, of about 25 percent of the leg capacity, in bushels per hour. Other combinations can handle the same amount of grain and they have some advantages, although they're sometimes less economical to operate.

With a large pit-small leg combination, for example, some trucks can be received at the elevator without starting the elevator leg motor. And if there is a breakdown of the leg, a few trucks can still unload. If the arrival of trucks is very irregular or if many different kinds of trucks are commonly used in the region, a large pit-small leg is economical because the pit serves as a storage bin during slack periods.

However, the large pit-small leg arrangement has this disadvantage: Different kinds of grain cannot be stored in the pit at the same time, so the pit must be completely unloaded each time a different kind of grain is received.

There are certain advantages in building a small pit-large leg system. This arrangement is particularly economical when the arrival rate is very regular and the same size and type of trucks are used. Then the need for using the pit as a storage bin is small. Also, the small pit can be emptied in a hurry when other types of grain are received.

ARS engineers studied elevator leg and pit combinations for two types of receiving facilities at country grain elevators. The first, a low capacity facility, is one in which the dump pit and the scale are located together; the pit is usually about a foot behind the scale platform. In many grain producing areas this type of facility can economically handle about 130 trucks per day.

The second type of facility has a higher capacity — about 320 trucks a day. The dump pit is usually about 200 feet from the scale. This distance provides room for trucks to line up at the dump pit after they're weighed.

At elevators where the pit is next to or under the scale, the most economical combination would be a 560-bushel pit and a 2,100-bushel-per-hour leg. Other combinations that can handle the daily truck arrivals range from a 240-bushel pit with a 2,600-bushel-per-hour leg, to a 2,600-bushel pit and a leg that handles 1,800 bushels per hour.

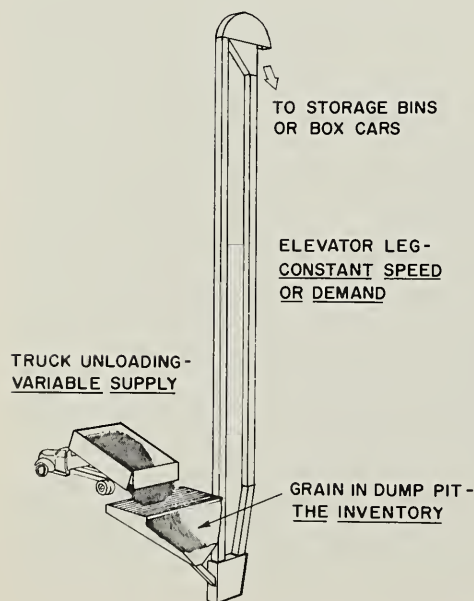
In systems where the scale is some distance from the pit, the most economical combination would be a 1,300-bushel pit and a leg that handles 5,000 bushels per hour.

Selection of the best pit-leg combination for an adequate, yet economical, system is more important than ever to both growers and elevator operators. In many areas, grain production is up but the harvest season is becoming shorter. Farmers or custom combine operators therefore are more anxious to unload their trucks rapidly at the elevator and return to the field for more grain.

Many elevators receive 90 percent of their yearly receipts during one week of the harvest. In Kansas alone, about 200 million bushels of wheat are unloaded at country elevators in only 3 or 4 weeks. And in the Corn Belt, harvesting corn with combines has also greatly shortened the harvest period. In these, and other areas, elevator operators can select the best combination of receiving equipment for their system with the calculations developed by the ARS engineers.

Details are given in ARS 52-6, "Selecting Dump Pits and Elevator Legs for Country Grain Elevators." Free copies are available from the Transportation and Facilities Research Division, ARS, USDA, Federal Center Building, Hyattsville, Md., 20781.

(The author, an engineer in the National Bureau of Standards, was a member of the Transportation and Facilities Research Division, ARS, when this article was written.)



Hydrocooling Peaches

Guidelines to prevent profits from melting away with the heat removed from your fruit.



A small conventional flood-type hydrocooler showers peaches in ice-cold water.

PEACH growers and packers can find out if part of their profits are melting away with the heat their hydrocoolers remove from their fruit, by comparing their operations with guidelines developed by U.S. Department of Agriculture marketing researchers.

Recent engineering tests by A. H. Bennett, of USDA's Agricultural Research Service, R. E. Smith, and J. C. Fortson, of the College Experiment Station, University of Georgia, can show growers and packers how fast they can cool peaches of different sizes.

Peaches cool best in water chilled to about 35° F., engineers say. At this temperature, a 3-inch peach that comes to the packinghouse from the orchard at 90° can be cooled in an efficient hydrocooler to an ideal shipping temperature of 40° F. in 30 minutes. Under the same conditions, a 2-inch peach can be cooled in only 15 minutes.

When fruit takes longer to cool than the recommended times, it might indicate that the hydrocooler isn't performing up to par. And if the peaches cool much faster than the ARS guide indicates, operators may be wasting their cooling capacity—and profits—in an oversize cooler unit.

Operators can also determine cooling requirements with ARS guidelines for peaches arriving at the packinghouse at different temperatures. The engineers found that 100 bushels of peaches per hour can be cooled from 80° to 40° F. in a hydrocooler operating at a refrigerating capacity of 18 tons, or loaded with about 1,500 pounds of ice.

If the peaches were only 10 degrees warmer (90°) when they came in from

the orchard, the cooling load in a mechanically cooled hydrocooler would increase about 25 percent, requiring about 23 tons of refrigeration. About 2,000 pounds of ice would be needed in a hydrocooler with that type of refrigeration.

Even when equipment is adequate, it may still cool fruit too slowly because of an overburdening heat load from extraneous sources. Extraneous heat made serious inroads on the efficiency of some commercial hydrocoolers observed by engineers, drawing off as much as 50 percent of the equipment's refrigeration capacity.

Hydrocoolers can be protected from most of the extraneous heat by insulating surfaces exposed to hot motors, the sun, or other heat sources, and by installing curtains or doors to keep drafts of hot air from blowing on the cooler. Well-insulated and efficiently-operated hydrocoolers give up no more than 15 percent of their refrigerating capacity to extraneous heat.

In flood-type hydrocoolers, peaches in bushel baskets cool best in a shower bath of 15 gallons of ice-cold water per minute (gpm), for each square foot of horizontal tunnel area. The flow rate could be reduced to an equally satisfactory 10 gpm, earlier tests show, if the water is distributed uniformly over the fruit and dispersed in fine particles by spray nozzles.

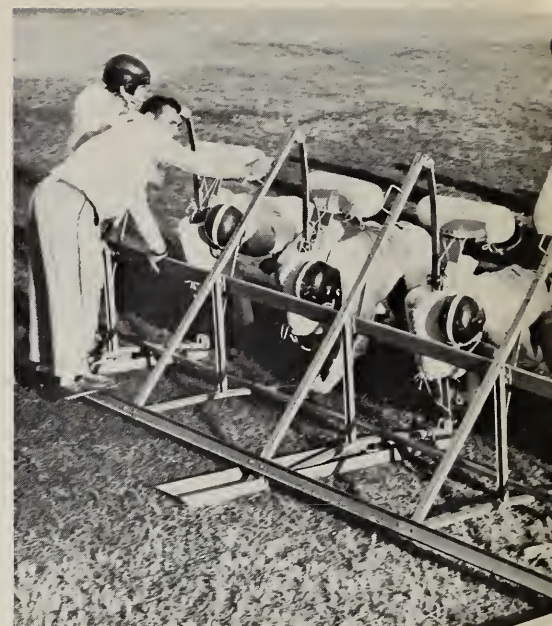
This smaller flow rate is also adequate when bulk loads of peaches, loaded 8 to 15 inches high on the conveyor, are carried through the hydrocooler. If the conveyor carries a bulk load not more than 8 inches high,

the water flow rate can be further cut to only 5 gpm with satisfactory cooling.

Earlier hydrocooling tests also showed that the cooling rate could be increased by moving the peaches through progressively colder water. This overcomes the tendency of peaches to cool more slowly as they approach the temperature of the water. For this same reason, hydrocoolers can be operated more profitably by removing the peaches as soon as their temperature approaches that of the water. Any additional cooling may take too long to be worthwhile and, at this stage, the equipment may be removing more heat from the surroundings than from the fruit.

Engineers studied operating requirements of both ice—and mechanically-cooled systems. Small operators who ship 25 carloads or less annually may find that ice is more economical than mechanically-refrigerated hydrocoolers. These operators might consider converting to mechanical refrigeration, however, if ice costs are higher than \$8 to \$10 a ton. And if their hydrocoolers can be used for other crops in the off-season for peaches, mechanical refrigeration might be a better investment.

Cooling requirements for peaches of several sizes and temperatures in addition to those quoted in this article are given in Agriculture Information Bulletin No. 293, "Hydrocooling Peaches." Free copies of both reports are available from Office of Information, U.S. Department of Agriculture, Washington, D.C. 20250.



What Do They Eat At School?

IN JUST a few weeks close to 50 million young scholars will head back to their elementary, junior and senior high schools all over the country.

"Where do they get their energy?" adults will ask, shaking their heads in disbelief as they watch youngsters leap into the endless round of fall activities.

A major source of youthful energy and vitality is good food in the right amounts. Most parents do their best to see that children eat well at home. Come fall, the question is, "what do they eat at school?" For some, lunch may be a soft drink and a candy bar, or French fries.

A majority of our school children, however, have the chance to buy a low-cost lunch that is planned according to the research-based Type A pattern that assures each student customer of getting 1/2 to 1/3 of his daily food needs at noon. This lunch, served in 71,000 schools where about 36 million children are in attendance is provided through the National School Lunch Program, a cooperative Federal, State and local venture, administered nationally by the U.S. Department of Agriculture's Consumer and Marketing Service.

The Type A lunch, product of this nationwide food service, starts with an outline of the nutritional needs of school-age children, specifically the 9-12-year-old youngster. School lunch managers adjust amounts of food up or down for younger and older students. The lunch includes: 2 ounces of lean

meat, fish or poultry or other protein-rich food; 3/4 cup of two or more vegetables and/or fruit; two teaspoons of butter or fortified margarine; a portion of enriched or whole grain bread; and a half-pint of fluid whole milk.

In menu form it might look something like this:

Beef pot roast

golden potatoes buttered broccoli

carrot sticks and celery roll and butter

pineapple layer cookies

milk

The lunches, of course, vary considerably among different schools, since lunchroom managers use the pattern to plan their own menus according to children's food tastes and locally available food supplies. Even so, there are many foods that are served often all over the country and are known to be universal favorites among children.

In a recent nationwide survey, school lunch supervisors weren't surprised that children everywhere generally go for hamburgers, fried chicken, turkey, spaghetti and hot dogs. All soups but cream soups were found popular. Even some vegetables and fruits made the preference list—corn, green beans, potatoes, peas and peaches. Peanut butter, oatmeal cookies, over-sized sandwiches and "anything in a roll" are well liked by many youngsters.

The price of the lunch to the child also varies, but on a national average, it comes to a little more than 27 cents. The average Type A lunch actually costs about 50 cents. Federal cash reimbursement takes care of about 4 1/2 cents per lunch. Another 8 cents is added when the schools make full use of the foods purchased for them by the USDA and of donated foods acquired under price support and surplus removal operations. State and local governments pay about 11 cents per lunch.

To the child—the Type A lunch means a top food bargain. A less obvious part of that bargain is the years of research and development in food and nutrition behind the pattern for the lunch. The USDA itself has taken a major role in this work since 1894, when the Congress first appropriated money for the study of human food.

By 1946, when Congress established the National School Lunch Program, this Nation had developed a wealth of scientific knowledge about human food needs. By then the United States had an official dietary guide—showing the amounts of calories and certain nutrients needed for normal, healthy people living in this country. Recommended Dietary Allowances are the work of the Food and Nutrition Board of the National Academy of Sciences National Research Council—a government-appointed advisory group of leaders in nutrition and related sciences.

Nutritionists of the U.S. Department of Agriculture translated the



rather technical information of the dietary allowances into the Type A pattern for the school lunch program. Because good nutrition for the Nation's school children is a prime goal of the lunch program, the details of the Type A pattern are written into the regulations and operating agreements for the National School Lunch Program.

USDA nutritionists keep the Type A pattern up-to-date with periodic revisions in the Research Council's Recommended Dietary Allowances to reflect new research findings and changes in American living patterns. There have been no basic changes in the pattern since it was established in 1946, but there have been some new interpretations. For example, since an early review of the pattern, school lunch managers have been trained to use more vegetables rich in vitamins A and C. Since a recent 1964 review, when the revised recommended allowances showed that children need more iron than was previously thought, school lunch officials have been urging more frequent servings of food containing iron in Type A lunches.

The C&MS School Lunch Division's Technical Services Branch employs experienced home economists who coordinate the work of meeting the nutritional goals of the program, including interpreting the Type A pattern and helping school lunch managers put it to practical use in feeding children. They work with USDA research laboratories in developing recipes, and information on quantity food buying and menu planning, and many other reference and training materials, which are provided to State school lunch leaders who in turn advise some 30,000 local school

lunch workers in program schools.

Last year school lunch programs in every State, the District of Columbia and U.S. territories, served a total of almost 3 billion lunches to some 17 million youngsters everyday. About 10 percent of these lunches were served free or at reduced price to children who could not afford the full price.

But there are still millions of school children not getting the nutritional benefits of the Type A lunch. Many in schools taking part in the school lunch program don't buy the Type A lunch and need to learn the importance of a good noon meal. And many schools attended by needy children just don't have the necessary funds to begin and maintain a lunch program even with the normal amount of Federal and State assistance.

During the last two years, a good start has been made toward closing this nutritional gap. With available food and funds, the State and Federal Governments have been providing special assistance to many of these schools to get lunch programs started. Last June, at the close of the school year, about 1200 of these needy schools were serving lunches to some 170,000 children, with extra food and cash assistance, borrowed or donated equipment and volunteer labor.

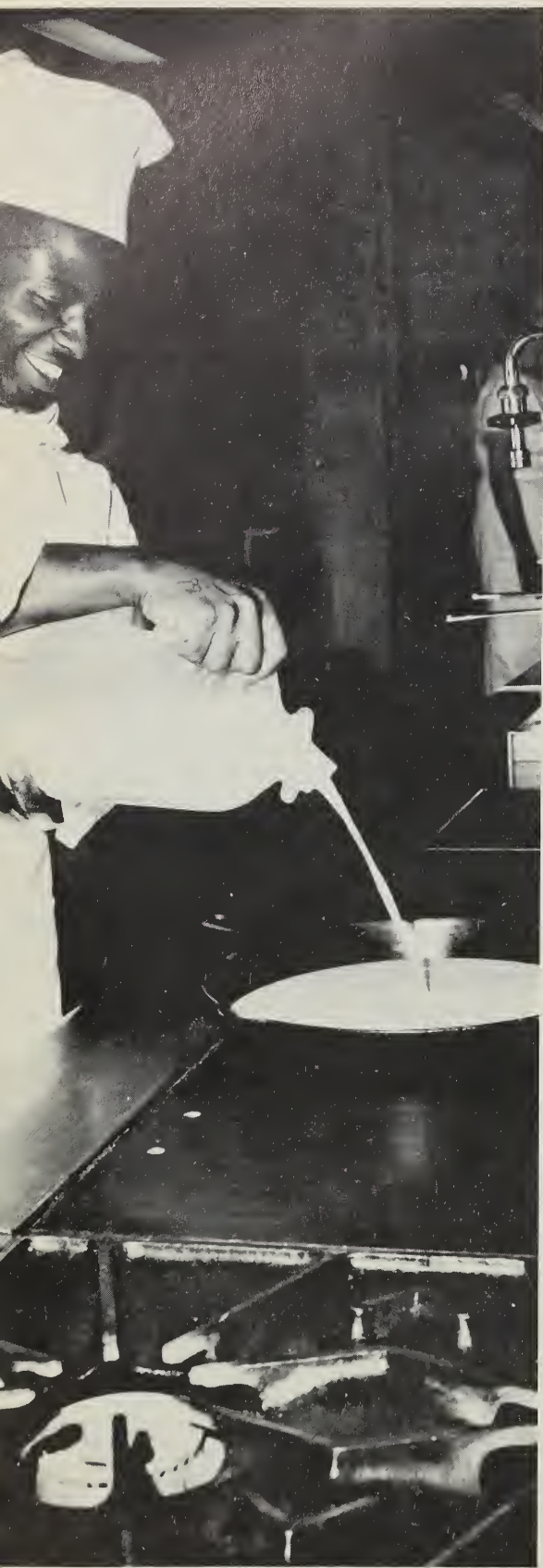
To enable more old, poorly-equipped schools in large cities to take part in the lunch program, researchers have been studying the possibilities of using centralized school lunch kitchens to supply lunches for surrounding schools. A report of their research shows that central kitchen operations are working in some urban areas, but they may need financial help from public and

private welfare groups or other outside agencies to fill the great need for free and reduced price lunches in these schools.

More Federal assistance in providing food services for deprived children — including construction of kitchens and cafeterias — can be obtained under both the Economic Opportunity Act of 1964 and the Elementary and Secondary Education Act of 1965. This will enable many school districts to strengthen and expand their efforts to serve lunches to needy children, during the next few years.

Additionally school lunch programs in low-income areas can be strengthened through the OEO's Neighborhood Youth Corps work-study and work-training programs for youth, its work-experience programs for adults, and the VISTA volunteers or domestic peace corps. These programs can enable some school lunch managers to get full-time or part-time cafeteria workers, with much of the cost defrayed by the Federal Government.

These new approaches to School food services are aimed at someday enabling every child, regardless of his family's income or his neighborhood, to have the chance to get a good lunch when he goes to school.



Chef prepares thawed scrambled eggs. Formerly, liquid eggs could only be used by bakers, noodle manufacturers, or to make such high-temperature foods as custards, sauces, casseroles, etc. Bag in the next column above contains 100 medium-sized eggs and quality seal indicating use of only grade A eggs.



New Glamour For Frozen Eggs

Now cooks can fix 1800 scrambled eggs in just 13 minutes.

SCRAMBLED eggs for 900 people? Coming right up! As a matter of fact, with a new concept of packaging top-quality liquid whole eggs, volume feeders can prepare 1800 scrambled eggs in just 13 minutes. Preparing the same number of shell eggs takes an hour and three-quarters.

Hotels, restaurants, cafeterias, hospitals, schools, institutions — in short, all volume feeders — can now buy top quality liquid whole eggs for more convenient preparation and serving.

Egg breakers have a more saleable product with a broader use. And producers have an expanded outlet for quality eggs.

This new program, using the new packaging and eggs of Grade AA or Grade A interior quality exclusively, was developed by the New York State Department of Agriculture in cooperation with the Matching Fund Program of the U.S. Department of Agriculture's Consumer and Marketing Service. Manufacture of the product is under continuous official State inspection, with a special seal marked on the package.

The most popular of the new packs

consists of four 10-pound disposable polyethylene plastic bags in a cell-pack fiberboard container. (There are also a 5-pound pack, and large commercial 20- and 30-pound units. Smaller packages may be developed for retail sale.) Compared to the customary 30-pound cans, the new plastic package is more easily handled at the plant, in transit and by the user.

A new, more efficient and fully sanitary filling and packaging arrangement was developed under the program, to meet users' needs. It has proved so successful that it has been adopted by other egg-breaking plants.

Volume feeding establishments are finding the frozen eggs packaged in this new style very attractive. It provides highly acceptable cooked egg dishes with much less routine labor, allowing better use of employee time, as compared to preparation of shell eggs for the same uses. Institutional users are finding the cost of the new product averages about the same as or even a little less at times than Grade B shell eggs, which some of them had used for these cooked egg dishes.

Dramatic evidence of time-saving was provided by time and motion tests where preparation of 1800 shell eggs took an hour and three-quarters, compared to only 13 minutes for an equivalent volume of whole liquid eggs — the shell method was about eight times as long.

The New York State Quality Frozen Egg Program has gained the enthusiastic support of all concerned — producers, processors and large users. It has succeeded in expanding the quality egg market for producers, and may have helped steady the prices they received at critical periods. It is an excellent outlet for eggs that have high interior quality but are of small sizes, odd shapes or have irregular shells.

Demand from commercial volume users is growing steadily. Assistance has been offered to other States in setting up similar programs.

In two years the program has marketed over four million pounds of quality homogenized whole frozen eggs, mostly to 25 State institutions, where the request for such a program originated — but also to Federal, municipal, and private hospitals, schools, military installations, hotels, and restaurants.

Producers furnishing eggs under the program have agreed to follow prescribed handling methods, including proper egg washing, to insure high quality at the point of origin.

Developments under way indicate that this program and other similar State programs will require pasteurization or testing for Salmonella, as an added assurance to users.

The plants participating in the New York State frozen egg program are now studying means to prepare for this new requirement.

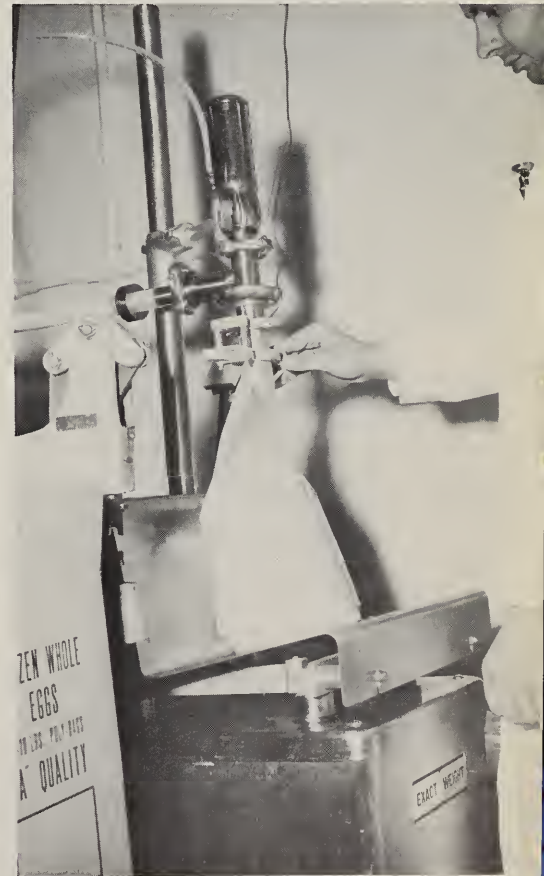
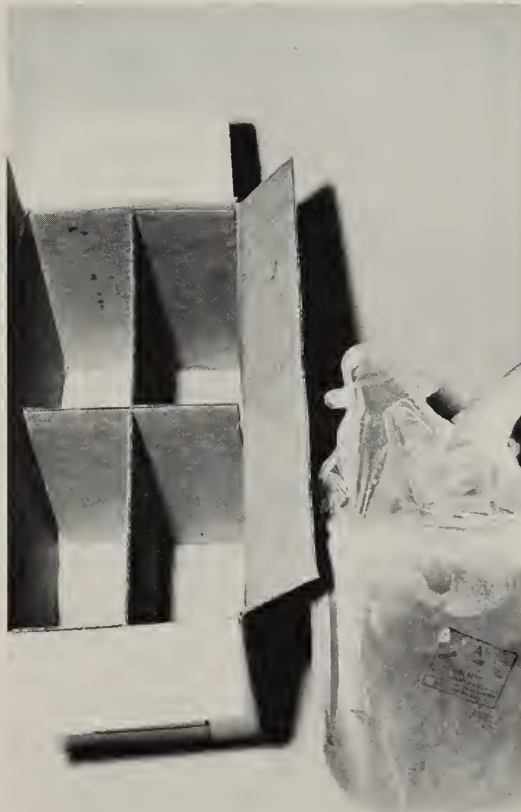
The New York State Department of Agriculture and the U.S. Department of Agriculture are now working on a plan so that the participating New York State processing plants may operate under the voluntary Federal-State egg products inspection service as well as under the State inspection program.

The New York State Quality Frozen Egg Program started as a matching fund project under cooperative arrangements with the Consumer and Marketing Service, and is now a regular self-operating State program.

This frozen egg project is one example of the 146 matching fund projects underway throughout the Nation, in cooperation with 44 State departments of agriculture — all aimed at improving the marketing of farm products.



After this polyethylene bag is filled with Grade A homogenized whole liquid eggs, it is automatically weighed and sealed at the egg-breaking plant. Four of the 10-pound plastic bags fit into the cell-pack container shown below.



THIS IS USDA'S CONSUMER AND MARKETING SERVICE

How the Consumer and Marketing Service works — what it does and why — is explained in detail in a new publication just issued by the U.S. Department of Agriculture.

Titled "This is USDA's Consumer and Marketing Service" (PA-661), the 36-page brochure describes in text and pictures how C&MS employees service, regulate, improve, and protect the Nation's marketing system for food and farm products.

C&MS Administrator S. R. Smith says in a Foreword, "As its name implies, this is a service agency, dedicated to the service of consumers, of those engaged in marketing, and of producers."

The publication tells how the job is done in four broad functional areas:

1. Consumer Protection — For Safe and Wholesome Food. This includes meat and poultry inspection (including approval of labels), which are required by law, as well as similar inspection and plant sanitation services for some other foods, provided on a voluntary basis.

2. Marketing Service — For Efficiency, Economy and Equity. This area of work includes developing quality standards; providing grading, acceptance and market news services, and carrying out surplus removal programs.

3. Market Regulation — For Fair Trade and Orderly Marketing. The administration of regulatory laws, such as the Packers and Stockyard Act and the Federal Seed Act — plus the marketing agreement and order program.

4. Consumer Food Programs — For Better Diets and Better Markets. School lunch, special milk, commodity distribution, food stamp, and plentiful foods programs, are included in this function.

In each of these chapters, the brochure describes how C&MS employees, stationed all across the country, carry out the mission of the agency "to help give force to the principle that our supply of food and other farm products shall move from producer to consumer quickly, efficiently, safely, and with fairness to all."

To obtain a single free copy of "This

is USDA's Consumer and Marketing Service" (PA-661), send a postal card to Office of Information, U.S. Department of Agriculture, Washington, D.C. 20250.

USDA FOODS FOR OPERATION HEAD START

This summer, over 535,000 children in Project Head Start, a program of the Office of Economic Opportunity, will be eligible for the United States Department of Agriculture's Special Milk Program and the 12,500 Head Start Centers will be eligible to receive surplus foods to use in their child-feeding programs.

Federal funds are provided through the USDA to reimburse participating schools and Project Head Start Child Development Centers for part of the cost of the milk. The reimbursement will probably be two cents on each serving of milk.

Some of the commodities available for the child-feeding programs are bulgur, corn grits, corn meal, butter, cheese, flour, lard, margarine, non-fat dry milk, dry split peas, rice and rolled wheat. School lunch administrators in each State will be available to advise Head Start Center personnel on meals and budgets.

STATE SEAL PROGRAMS

Many States are now promoting high-quality, homegrown food products under a special "Seal of Quality." A quick recent survey of most of these "Seal of Quality" programs shows there are six vital factors which can spell success or failure, reports George Goldsborough. He is Director, Matching Fund Program of the Consumer and Marketing Service, U.S. Department of Agriculture — administered in cooperation with State departments of agriculture.

Where the use of the seal by marketing agencies and distributors is voluntary, these are the key factors:

1. The commodity must stand out in some manner from that produced in competing areas, and this difference must be readily identifiable by consumers. (This is done most readily, of course, if the State is the principal source of the Nation's supply of the commodity.)

2. The product must be regularly available in large uniform lots, and the grade, label and promotional activities must be consistent with the mass procurement and merchandising requirements of retail chains.

3. Cooperating producers and marketing agencies must be well-organized with strong promotion and information programs.

4. The State agency must be prepared to provide intensive service to cooperating producers, marketing agencies and retailers — not only to insure strict quality control as required by a label, but also in market development, packaging, plant efficiency, and other aspects of a total marketing effort.

5. There must be an absolute minimum of added costs and problems to producers and distributors in meeting the grade and labeling requirements.

6. The grade requirements must be consistent with USDA grade standards, and they should not serve as a State trade barrier.

WHAT'S THAT AGAIN?

In a letter of thanks to USDA for donated commodities received in his school lunches, a Minnesota lad said: "We would not have had such a swell lunch if it hadn't been for you — so I thank you from the bottom of my appetite — I mean heart."

FOOD STAMP PROGRAM IN 116 AREAS

The Food Stamp Program this August is helping to improve the diets of an estimated 700,000 low-income people, at the same time contributing to the economies of the 116 areas in which they live.

From February through July, the program was expanded this year under the Food Stamp Act of 1964 to 116 counties and cities — including the Dis-

trict of Columbia — in 31 States. A few remaining previously-designated areas will begin operating in the next two or three months. Over the next few years, the program probably will be expanded to all areas of the country that want and need it.

The Food Stamp Program helps low-income families in both urban and rural areas to obtain more and better food through regular trade channels.

AUGUST IS SANDWICH MONTH

Through its Plentiful Foods Program, the U.S. Department of Agriculture's Consumer and Marketing Service is cooperating with the Nation's wheat growers in calling attention to the multiple nutritious varieties of sandwiches that can be created for easy, satisfying summer eating, indoors and out.

CHANGING MARKETS

FEWER BUT LARGER CHICKEN HATCHERIES

There has been a definite trend in recent years toward fewer, but larger, chick hatcheries. Eleven percent of all hatcheries now have a capacity of 500,000 or more eggs a year and produce almost 45 percent of the Nation's chicks. Five years ago, in 1959, only 4 percent of the hatcheries handled more than 500,000 eggs annually. These accounted for only 24 percent of the chick capacity. Total number of hatcheries has declined 45 percent since 1959. At the same time, the number of chicks hatched annually has increased by almost one-fifth.

GRAIN APPEAL BOARD MOVES

The final board of appeals under the USDA's Grain Division's inspection operations — the Board of Appeals and Review — moved from Chicago, Ill. to the Agricultural Research Center in Beltsville, Md. the latter part of June. The Board functions as the ultimate source of appeal for the producer or dealer who feels that for some reason his grain has been inspected incorrectly.

MEAT TIPS

— *From meat inspectors of
USDA's Consumer and Mar-
keting Service.*

To be labeled as "porketta loaf," a product must meet the same standards of content as pork loaf, and cannot contain beef or other meats.

* * *

When a meat product is sold with a special offer to the housewife to send for merchandise, the full details on how to obtain these "specials" must be included on the label of the product.

* * *

Labels containing coupons or prize offers can only be used during the actual period of time which the offer is made.

* * *

Processed meat products containing soy protein concentrate as an extender cannot be labeled as luncheon meats, since this ingredient is not usually associated with such products.

* * *

The net weight declaration on labels for canned ham include the weight of the gelatin and cooked-out juices. This is due to the fact that these juices are developed while the ham is being cooked in the can, and become incorporated in the gelatin. These juices are actually composed of cooked-out meat proteins and fat, and constitute a part of the food in the can. Such products are labeled as "cooked ham with natural juices." This is contrasted with labels for meat food products packed in brine, vinegar, and agar jelly. In such products, the packing substance is not regarded as being part of the food in the container. Thus, the net weight statement on the label for these products represents the drained weight of the product, excluding the packing substance.

* * *

Use of the term "enriched" is not permitted on labels for meat products, because — from the consumers' standpoint — there is no established standard as to its meaning. Hence, use of this term could be misleading.

* * *

The term "Polish" has been associated with a popular sausage product for many years, and for hams originating in Poland. Therefore, its use is not permitted in connection with other meat products.

* * *

Meat products labeled as being "kosher" or "kosher style" must be prepared under Rabbinical supervision. Products not processed under such supervision cannot be labeled with these designations, since there is no other acceptable standard for use of these terms.

* * *

Water used by meat packing plants in the processing of meat must pass the requirements prescribed for potability by the U.S. Public Health Service. Such tests must be performed by official health agencies; tests by packing company laboratories are not acceptable.

* * *

The label "Veal Leg for Cutlets" can be used only to describe a product derived from the veal round.

* * *

Ready-to-eat sandwiches which contain meat — such as those sold in vending machines — are not subject to inspection for wholesomeness under the Federal meat inspection law. These products are, however, subject to the laws and regulations administered by the Food and Drug Administration.

Better Control of Sweetpotato Decay

By Leaton J. Kushman

A review of new methods of controlling post-harvest sweetpotato decay — including chemical treatments, better shipping containers and loading patterns.

NEW METHODS developed in the last 2 or 3 years to control sweetpotato decay after harvest now enable consumers to buy sweetpotatoes in attractive and convenient film packages. And, equally important to higher sales potential for growers and other handlers are the reduced losses caused by soft rot and other disorders.

Further improvements in treatments recently tested by marketing researchers in the U.S. Department of Agriculture show that equally good or better control of sweetpotato decay can be obtained by even smaller than usual doses of a standard SOPP (sodium o phenylphenate) treatment, if applied in a warm solution. Other treatments tested also reduced or eliminated chemical residues and are easier to use.

Scientists in USDA's Agricultural Research Service obtained satisfactory decay control with Botran, CIPC, PPC, SOPP, and warm water used by itself and in combination with SOPP. Eight other chemical treatments gave unsatisfactory results.

Botran is also known by its chemical name: 2,6 dichloro-4-nitroaniline. Chemical names of the other promising compounds are, CIPC: isopropyl-N-(3-chlorophenyl) carbamate, and PPC: propynyl-N-phenylcarbamate.

Botran gave the most promising results, the scientists reported. It controlled decay as satisfactorily as standard SOPP treatments, and with extremely low applications: 500 to 1,000 parts per million (ppm), in laboratory tests. This low application

rate also makes Botran three to four times cheaper to use. At the time of the ARS study, Botran cost ½-cent, and SOPP about 2 cents per bushel of sweetpotatoes.

Tests made under commercial conditions show Botran treatments are simple, cheap, and less likely to discolor sweetpotatoes than SOPP. In these tests, much smaller doses of Botran — 1/4 to 1/5 as much as the standard 1 percent SOPP concentration in a 30-second dip — gave effective decay control among Centennial sweetpotatoes examined by ARS pathologists William R. Wright and Jacob Kaufman.

A Botran concentration of 800 to 1,000 ppm in a conventional 200 gallon dip tank treated more than 1,000 bushels of sweetpotatoes before the tank needed recharging with additional Botran. In contrast, SOPP solutions require adjustment after every 150 bushels treated. Rinsing and waxing the sweetpotatoes had no adverse affect on the Botran treatments.

Good results can also be obtained when sweetpotatoes are sprayed rather than dipped in Botran solutions. However, solutions are diluted more rapidly when applied as a spray. Frequent Botran adjustments were necessary in the small spray tank reservoir (15 gallons) at the commercial packing-house where tests were conducted. This same drawback would also apply to SOPP or other solutions when used as a spray.

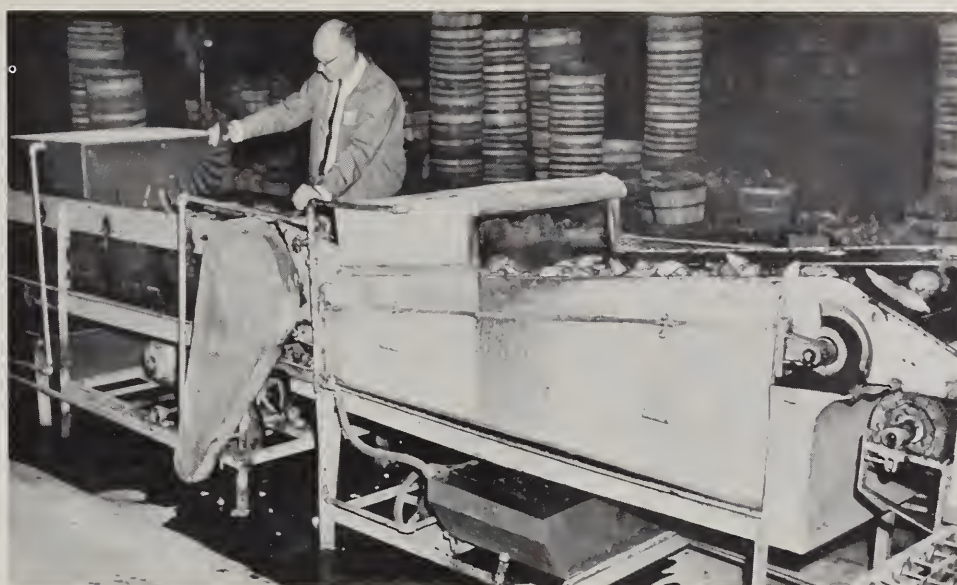
A 0.2 percent Botran solution held decay of Jersey Orange sweetpotatoes below 10 percent, in test lots examined by ARS horticulturist Robert M. Hardenburg. These washed, graded sweetpotatoes had been treated and shipped to Beltsville, Md., from New Jersey in ½-bushel baskets, and in 3-pound con-



Injury-reducing lid cushions and linings from left are made of polyethylene bubbles, pressed cotton, cardboard, foam rubber and pressed paper pulp.



Boxes are better than baskets for maintaining the quality of sweetpotatoes.



These sweetpotatoes are sprayed for protection against soft rot as conveyor carries them under hood. SOPP or Botran can be used with this equipment.

sumer packages. Before they were examined, they were held under commercial marketing conditions: 60° F. storage for 1 week, and 70° F., as in retail display, for another week.

Dr. Hardenburg found less weight loss, shriveled roots, and soft rot among sweetpotatoes in polyethylene bags than those in polymesh bags or baskets. Other kinds of rots, found among only 8 percent of the roots, were more prevalent on roots in polyethylene than in polymesh bags or the baskets.

Botran did not discolor or injure the three varieties of sweetpotatoes tested, even when applied at rates higher than would probably be used commercially. Sweetpotatoes treated with Botran did develop some black rot and some sprouted. However, other methods of controlling black rot have nearly eliminated this disorder in most sweetpotato regions. And other treatments could be used in circumstances where sprouting might be a problem.

Although the standard 1 percent SOPP solution gives good control of soft rot, it sometimes discolors or chemically injures the sweetpotatoes, especially if they haven't been cured or if they skin easily. This risk can be minimized by employing a water or wax rinse. Another approach tested successfully by ARS scientists is to use an acidified SOPP oil emulsion that is only one-fourth as strong as the conventional SOPP treatment.

Although this modification of SOPP did not injure the roots, other problems remain to be solved. The modified SOPP costs more than standard SOPP solutions, the solution is diluted too rapidly, and the increased acidity of

the modified SOPP treatment could corrode the packinghouse equipment.

A 15-second dip in SOPP heated in a water bath to about 125° F. nearly eliminated soft rot from test lots of Centennial sweetpotatoes. A 3-minute hot water treatment, used without SOPP, also reduced decay of Jersey Orange sweetpotatoes significantly, but not as well as any of the SOPP and Botran treatments. Additional equipment needed for hot water and warm SOPP treatments adds to the expense of these control methods.

Two additional chemicals also gave good decay control: CIPC and PPC. Goldrush sweetpotatoes developed much less black rot when treated in a 0.5 percent or stronger solution of PPC than when treated with other methods. And both PPC and CIPC reduced sprouting of Goldrush sweetpotatoes examined 4 weeks after they were held under commercial market conditions: 1 week at 60° F., and 3 weeks at 70° F.

For better decay treatments to be of maximum value, better handling methods must also be used. Researchers found less decay and weight loss among sweetpotatoes in tub bottom baskets fitted with liners and lid cushions than among those fitted with paper strips commonly used by growers along the eastern seaboard.

Full telescoping, corrugated cardboard boxes holding 50 pounds of sweetpotatoes gave the best protection of any shipping container tested. Transportation costs, per bushel, were also less for sweetpotatoes shipped in rectangular containers than in baskets. More efficient use of space with boxes

allowed trucks to be loaded with as much as a 25 percent larger payload. The containers themselves also weighed less than bushel baskets, contributing another 1,000 to 1,500 pounds in additional payload in a trailer that could carry 500 shipping containers.

Other advantages of various decay treatments, shipping containers, and a loading pattern for boxed sweetpotatoes are described in Marketing Research Report No. 698, "Fungicidal Treatments and Shipping Practices for Controlling Decay of Sweetpotatoes During Marketing."

Additional tests on consumer packaging and decay control of sweetpotatoes are described in Marketing Research Report No. 650.

Free copies of both reports are available from Market Quality Research Division, ARS, USDA, Plant Industry Station, Beltsville, Md. 20705.

(The author is a member of the Market Quality Research Division, ARS, stationed at Raleigh, N.C.)

[Mention of trade names does not constitute a guarantee or warranty of the products by the U.S. Department of Agriculture or an endorsement by the Department over other products not mentioned.]

The Food and Drug Administration, in June, approved Botran for use on sweetpotatoes at a rate of 10 parts per million, a rate that gave excellent results in USDA tests. Carefully follow directions on the label and keep Botran out of reach of children or pets.

OFFICIAL BUSINESS

Poultry Inspection Protects You

By B. H. Rorem

CONSUMER protection is one of the most important functions of the U.S. Department of Agriculture — protection which provides for good, wholesome food for your dining table.

Among the consumer-protection laws administered by USDA's Consumer and Marketing Service are two which come very close to the individual consumer — the Poultry Products Inspection Act and the Meat Inspection Act.

Both of the laws require Federal inspection of food products moving in interstate commerce, and both provide for regulation to insure that such food is indeed inspected properly.

In this article, we will deal specifically with the regulatory activities of C&MS under the Poultry Products Inspection Act, which help assure the consumer of a regular, wholesome supply of poultry and poultry products.

This Act, which became effective in 1959, is designed to assure consumers of safe, wholesome poultry products by requiring Federal inspection of all poultry and poultry products processed in plants dealing in interstate or foreign commerce.

The law provides that:

1. Poultry moving in interstate commerce must be inspected for wholesomeness.
2. Poultry processed in plants under Federal inspection must be inspected for wholesomeness whether it moves in inter- or intra-state commerce.
3. Poultry products processed under Federal inspection must be truthfully labeled, free of adulteration and

handled under prescribed conditions of sanitation.

Basically, the law provides for Federal inspectors, under the supervision of veterinarians, to qualify all poultry and poultry products moving in interstate commerce as wholesome and unadulterated. This is a massive job in itself. It involves inspection of the birds both before (ante-mortem) and after (post-mortem) slaughter, and constant supervision of processing plants to insure cleanliness and proper procedures.

This is all done to protect the food supply of the American public, the consuming public. But a law, no matter how good it is, can be effective only to the extent that it is enforced. This is the task of the regulatory inspector.

The C&MS Poultry Division, which performs the inspection services under the Act, also is responsible for regulatory actions which enforce the Act.

Regulatory inspectors routinely check handlers of poultry to prevent the movement of noninspected poultry in interstate commerce. They examine poultry and poultry products in retail stores, in cold-storage houses and warehouses and in transportation companies. They visit poultry dealers and distributors regularly to check on poultry — to insure that nothing unsafe reaches your dining room table.

Poultry products are checked carefully to determine that they are sound, and fit for human consumption — and that they are marked in accordance with provisions of the law.

These inspectors supplement the work of the regular poultry inspectors,

to protect the consumer up to the time she buys her products.

When a product is suspected of being uninspected, unwholesome or falsely labeled, the regulatory inspector will take action to correct the situation. Since criminal penalties are provided in the Poultry Products Inspection Act, a serious violation of the Act will be handed over for criminal action, often after non-judicial methods of enforcement have failed.

In the case of a first offender, or if the violation isn't a serious one, the Regulatory Section may send a "letter of warning" to the alleged violator.

Last year, approximately 200 letters of warning were written. Of these only about 25 were later submitted for court action.

Consumer protection under the Meat Inspection Act is handled in much the same way as for poultry. Investigators of the C&MS Meat Inspection Division check meat products from processor to dinner table — to insure that meat and meat products are wholesome, unadulterated and properly labeled.

In summary, the Poultry Products Inspection Act and the Meat Inspection Act not only offer protection to the consumer by requiring Federal inspection for wholesomeness during processing, they offer additional protection through routine checking of the product while it is in the regular channels of trade — to assure wholesomeness when purchased by the consumer.

(The author is head of the Regulatory Section, Inspection Branch, C&MS Poultry Division.)